



## Case report

Self injury of extremities leading to amputation while handling local bomb<sup>☆</sup>Umesh Kumar Bhadani MBBS, MD Professor<sup>\*</sup>

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## ABSTRACT

Self injury while making material which has a tendency to blast is dangerous- whether it is fire cracker or local bomb. Some villagers living nearby forest make bomb to scare wild animals to protect their pet animals. A 22-year old girl while making this kind of local bomb, got injured badly. The injury was sustained while making bomb in a sitting position with face down as it is evident form type of injury. There was lacerated injury of both hands leading to amputation of both hands above wrists. Lacerated injury was present on medial sides of both thighs and gun powder marks on face.

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## 1. Introduction

Self injury while making material which has a tendency to blast is dangerous- whether it is fire cracker or local bomb. If this kind of maneuver is done by amateur or novice may lead to grave consequences as is evident by this case report.

## 2. The case

A 22-year old girl was brought to emergency with extensive lacerated injury to both hands (Figs. 1 and 2) involving area around wrists and medial side of both thighs (Fig. 3). Inspection of injury revealed it to be caused by blast of some firework or bomb. There was charring of skin with presence of gun powder on and around injury. Fingers had black marks of gun powder. There was presence of burn by gun powder on face with marks around mouth and eyes (Fig. 4).

The nature of injury was suggestive of inflicting it while holding the blasting object while sitting in squatting position and working over it. The presence of injury on both thighs and on face may be reason for this. The impact of blast was strong enough to cause extensive damage to both hands including wrists. Skin was blown out exposing ligaments and bones of the hand. The charring of blood vessels decreased bleeding in proportion of the damage.

Medial sides of both thighs also got injured exposing muscles of the thigh. Fat around the injury was charred.

There was tendency of concealing the history by patient and relatives due to medico-legal reasons. There was no history of definite mode of injury. One of the neighbors suggested that the injury may be due to accidental blast of local made bomb in the process of making it. The unauthentic history narrated by a neighbor suggested the probability that the victim was a member of family who live nearby forest. Wild animals come and kill their pet animals. To protect their animals they prepare local bombs to scare away wild animals. The victim was probably preparing one of this kind of local bomb which got blasted by accident and was the reason of special type of injury in both extremities and on face.

The injuries of both hands were of such an extent that it was difficult to salvage them. Blood supply of distal part to injury was jeopardized and gangrene of hand was imminent. Decision of amputation of both hands was taken and was done to save limb and life. Thigh injury was healed by cleaning and dressing. There was great psychological trauma to the patient due to amputation of both hands.

## 3. Discussion

Explosives can be categorized as High order Explosive (HE) or Low order Explosive (LE). HE are commercially produced and produce high pressure waves with injury to hollow viscera while LE produce subsonic blast and injury is due to fragmentation, blast wind and thermal.<sup>1</sup> The present case is an example of injury due to low order explosive with no injury to any hollow organ. Injury by

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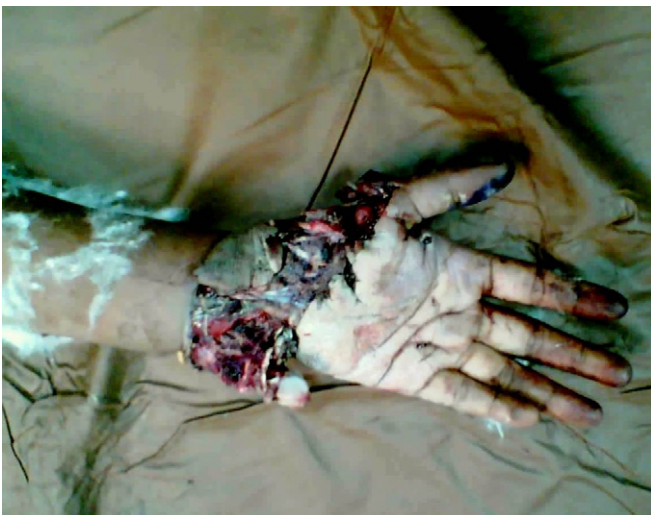
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**Fig. 1.** Lacerated injury of left hand due to bomb blast.

self made bombs involves primarily hand and are due to high energy with short range of dispersion.<sup>2</sup> In the present case there was extensive injury of both hands. Contrary to injury caused by pipe bombs in report of Voche and Merie<sup>2</sup> there was no direct injury to thumb and fingers but there was injury to both wrists due to blast wind. It seems that bomb got exploded accidentally and injured the hands, thighs and face. There was black stain of exploding chemical on fingers, thighs and face.

Blast injuries due to terrorist attack are common now a days but there are some published reports of nonterrorist suicidal deaths due to bombs.<sup>3–5</sup> Suicidal notes were found in first case and fire-works were put into mouth with resulting blast and deaths were due to injury to central nervous system. Very few reports are available of suicidal death by high explosive device. It may be possible for those people who have easy access to this kind of device. A case report describes death of soldier in his bunker by self explosion by detonating explosive charge (RDX) in his mouth.<sup>6</sup> The victim became acephalus with extensive vascular injury of head and neck, infarction of sternum from inside and trace pattern on right arm. Another report of similar pattern is available where a male used blastic caps (detonator) near his head to cause extensive cranial damage.<sup>7</sup> Another rare case report describes extensive abdominal organ damage where explosives were tied to abdomen.



**Fig. 2.** Lacerated injury of right hand due to bomb blast.



**Fig. 3.** Injury to both thighs due to bomb blast.

The face in this case was singed, the hands were lacerated and the chest and the upper part of abdomen were badly mutilated.<sup>8</sup> Present case is an example of self injury due to local bomb. In present case the patient survived and could be able to give history and denied any suicidal attempt. There was no history of depression but she was depressed after injury due to imminent amputation of both hands. She was not able to give definite history with mode of injury due to psychological shock and probably fear of medico-legal implications. History gathered in the case report is from interview of persons who lives in the nearby areas with geographical and sociopolitical knowledge of the region. The injury



**Fig. 4.** Gun powder marks on face due to bomb blast.

took inside home as history given by relatives and there was a marked tendency of misleading information. Since it is a medico-legal case greater details of history is not included in the case report and emphasis is on nature of injury with clinical interest.

Crude bomb manufacturing is common in many places of this region. There are news reports in India where crude bomb manufacturing is a menace and news reports are published where minors and rickshaw pullers got injured due to crude bombs.<sup>9</sup> Some time rag pickers get unused bombs in waste material and it gets exploded accidentally. In the second news minor rag pickers hands were injured with unused local bombs in a town near capital Delhi.<sup>10</sup> As report from police indicates, while searching for usable scrap from the garbage, an explosion took place. One child lost two fingers of his right hand while another minor sustained minor injuries in his palm and leg. Present case emphasizes dangers of handling crude bomb.

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#### *Conflict of interest*

None declared.

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